



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,014	12/10/2003	Shih-Hsiung Wu	MR1939-90	5212
4586	7590	03/28/2005	EXAMINER	
ROSENBERG, KLEIN & LEE 3458 ELLICOTT CENTER DRIVE-SUITE 101 ELLICOTT CITY, MD 21043			SAWHNEY, HARGOBIND S	
			ART UNIT	PAPER NUMBER
			2875	

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary	Application No. 10/731,014	Applicant(s) WU, SHIH-HSIUNG	
	Examiner Hargobind S. Sawhney	Art Unit 2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following matter must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Claim 4, lines 3 and 4, "an inner portion rearward protruded beyond said intermediate board" is not clearly shown in the figures.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

Art Unit: 2875

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pederson (US Patent No.: 6,367,949 B1) in view of Isenga (US Patent No.: 4,954,932).

Pederson ('949 B1) discloses a light emitting diode (LED) lamp 10 (Figure 1) comprising:

- a back board 118 (Figure 12, column 22, lines 40-43); a circuit board 14 (Figure 12, column 22, lines 40-43); an intermediate board 18 and a lens 20 (Figure 12, column 22, lines 40-43);

Note: The above-indicated elements 118, 18 and 14 are similar to that of the embodiment shown in Figures 1 and 2 (Column 22, lines 40-43). Therefore, the descriptions of the respective back board, circuit board and intermediate board of figures 1 and 2 have been applied for the embodiment shown in Figure 12.

- the back board 118 being a flat rear side attachable to a predetermined position on a vehicle (Figure 12, column 22, lines 35-40);
- the back board 18 including mounting holes, receiving a fastener 48, positioned at predetermined positions (Figures 2 and 12, column 12, lines 22 and 23; and column 22, lines 40-43);
- the circuit board 14 positioned in front of side of the back board 118 (Figure 12); and the circuit board 14 provided with a plurality of LEDs 16 (Figure 16, column 22, lines 40-43);
- the intermediate board 18 positioned between the circuit board 14 and the lens 20 (Figure 12);
- the intermediate board 18 further including a plurality of separate openings 82 each having a reflective inner surface (Figures 2 and 12, column 17, lines 36-38); and the reflective openings corresponding to the LEDs 16 on the circuit board 14 (Figures 2 and 12); and
- the intermediate board 18 including through holes, receiving the fasteners 48 (Figure 2), corresponding to the holes on the back board 118 (Figure 12) or 36 (Figure 2).

Pederson ('949 B1) discloses a light emitting diode (LED) lamp comprising a lens covering the LEDs mounted on a circuit board, and protruding through reflective holes of an intermediate board. However, Pederson ('949 B1) does not teach the lens having its inner surface with a plurality of raised areas. Further, Pederson ('949 B1)

Art Unit: 2875

does not teach the lens having mounting holes corresponding to the holes defined on the backboard.

On the other hand, Isenga ('932) discloses a lamp 10 comprising a cover lens 43 (Figure 3) including:

- a plurality of raised areas 57 defined on its inner side; and mounting holes 61 receiving fasteners 75 (Figures 3 and 6, column 3, lines 17-22); and the holes corresponding to the respective holes defined in the backboard 60 (Figure 3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the (LED) lamp of Pederson ('949 B1) by providing the lens and as taught by Isenga ('932) for benefit and advantage of: diffusing illumination in the predetermined direction; and enhanced structurally secured attachment of the lens and its supporting elements for quick assembly and detachment of the lamp internals.

As detailed above, Pederson ('949 B1) in view of Isenga ('932) discloses lamp assembly meeting all structural limitations and relative positioning of the structural elements. therefore, the lamp, in its assembled form would be usable for:

- directing the light beams emitted from the LEDs to the inner reflective surfaces of the openings in the intermediate board, and further getting the reflected light beams refracted through the raised areas of the lens.

Regarding Claim 3, Pederson ('949 B1) in view of Isenga ('932) discloses the lamp 10 (Figure 1) further comprising the intermediate board 18 including a plurality of

Art Unit: 2875

separate openings 82 each having reduced cross section from outer to inner end (Figures 2 and 12, column 17, lines 36-38).

Regarding Claim 4, as the best as understood, Pederson ('949 B1) in view of Isenga ('932) discloses the lamp 10 (Figure 1) further comprising the intermediate board 18 including a plurality of separate openings 82 each having inner portion – inner conical reflective surface rearward protruding wall beyond the intermediate board – into the circuit board 14 (Figure 6).

4. Claims 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pederson (US Patent No.: 6,367,949 B1) in view of Isenga (US Patent No.: 4,954,932) as applied to Claim 1 above, and further in view of Roberts (US Patent No.: 5,619,375).

Pederson ('949 B1) in view of Isenga ('932) discloses lamp comprising an intermediate board including a plurality of separate openings each having a reflective inner surface; and the reflective openings corresponding to the LEDs 16 on the circuit board 14 (Figures 2 and 12). However, neither in combination nor individually Pederson ('949 B1) and Isenga ('932) teaches each opening having a hexagonal cross section.

On the other hand, Roberts ('375) discloses an automotive mirror assembly 10 (Figure 1) with LED lamp 30, and the LED lamp 30 further including reflectors 44 each having a hexagonal cross section (Figure 2, column 7, lines 3-6).

It would be have been obvious to one of ordinary skill in the art at the time of the invention to modify the (LED) lamp of Pederson ('949 B1) in view of Isenga ('932) by providing the reflectors each having hexagonal cross section as taught by Roberts('375)

for the advantage of positioning the maximum number of LEDS compactly in a dens matrix, and thus reduce the size of the device.

Conclusion

5. The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Malone et al. (U.S. Patent No. 6,851,839 B2), Szypszak (U.S. Patent Application Pub, No. US 2004/0070990 A1), Chen et al. (U.S. Patent No. 6,520,669 B1), Beyerlein et al. (U.S. Patent No. 6,520,666 B1), Muller (U.S. Patent No. 6,250,788 B1), Machida (U.S. Patent No. 5,746,497), Serizawa et al. (U.S. Patent No. 4,733,335), Mouyard et al. (U.S. Patent No. 4,345,308)

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hargobind S Sawhney whose telephone number is 571 272 2380. The examiner can normally be reached on 6:15 - 2:45.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on 571 272 2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

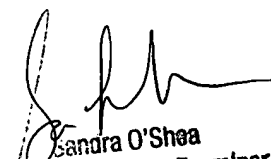
Art Unit: 2875

For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HSS

3/16/2005



Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800